



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,033

05/25/2006

Silvio Dalla Piazza

ICB0243

1879

24203 7590 04/13/2010

GRIFFIN & SZIPL, PC

SUITE PH-1

2300 NINTH STREET, SOUTH

ARLINGTON, VA 22204

EXAMINER

ROSENAU, DEREK JOHN

ART UNIT

PAPER NUMBER

2837

MAIL DATE

DELIVERY MODE

04/13/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,033	Applicant(s) DALLA PIAZZA ET AL.	
	Examiner Derek J. Rosenau	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-14, 16, 18-23, 25 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-14, 16, 18-23, 25 and 27-29 is/are rejected.
- 7) ☒ Claim(s) 30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 March 2010 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (US 2003/0168944) in view of Luff (US 6456168).

4. Claims 12-14, 18, 19, 21-23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff and Uchida et al. (JP 08-316732).

5. With respect to claim 12, Shimizu et al. discloses an electronic component (Figs 1-6) comprising at least one resonator element (item 2) arranged in a first housing of a case (Figs 1-5), the case comprising: (a) a main part provided with a base (item 4); and (b) a glass cover (item 3 and Paragraph 21) fixed onto the main part to hermetically seal the first housing of the case (Paragraph 15), wherein at least one portion of the glass

Art Unit: 2837

cover is transparent to a determined wavelength of a light beam to allow the resonator element to be optically adjusted (Paragraph 23), wherein the glass cover is friable or breakable (Paragraph 21, glass is inherently a breakable material), wherein the main part is made of a hard material (Paragraph 26).

Shimizu et al. does not disclose expressly at least one lateral wall of annular shape; that the cover is fixed onto an annular rim of the lateral wall of the main part; that one part of the rim entirely surrounds lateral surfaces of the cover to ensure protections of the cover of the electronic component against shocks; or that a space is provided between all the lateral surfaces of the cover and the one part of the rim surrounding the cover, wherein the space is substantially of smaller dimension than the thickness of the cover in order to facilitate mounting of the cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim.

Luff teaches an electronic component that includes a resonator element including at least one lateral wall of annular shape (Figs 1 and 3, item 135), wherein the cover (item 160) is fixed onto an annular rim of the lateral wall of the main part (Fig 3), and that one part of the rim entirely surrounds lateral surfaces of the cover to ensure protection of the cover of the electronic component against shocks (Figs 1-3), and that a space is provided between all the lateral surfaces of the cover and the one part of the rim surrounding the cover (Fig 3).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the lateral wall of Luff with the resonator element of Shimizu et al.

Art Unit: 2837

for the benefit of reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff).

Uchida et al. teaches a piezoelectric resonator in which the space between the lateral surface of the cover (item 5) and the one part of the rim (item 1a) is substantially smaller than the thickness of the cover (Fig 1b).

The language “in order to facilitate mounting of the glass cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim” does not positively recite any structural elements. As the combination of Shimizu et al., Luff, and Uchida et al. discloses each of the claimed structural features, the structure resulting from this combination would facilitate mounting of the glass cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to form the electronic component of Shimizu et al. as modified by Luff et al. such that the space between the lateral surface of the cover and the one part of the rim is reduced in size, such as in Uchida et al., for the benefit of further reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff – further reduction in the size of the space would allow for further reduction in the size of the package).

Art Unit: 2837

6. With respect to claim 13, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the hard material is a ceramic material (Paragraph 26).

7. With respect to claim 14, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Luff discloses that a height of the one part of the rim surrounding the lateral surface of the cover is larger than or equal to a thickness of the cover fixed onto the rim (Fig 3).

8. With respect to claim 18, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the first housing of the main part of the case that includes the resonator element is vacuum sealed (Paragraph 23), wherein the resonator element is a quartz resonator (Paragraph 21) adjustable by a laser beam through the transparent portion of the cover (Paragraph 23), and said quartz resonator comprises a tuning fork with two parallel arms (Fig 6) connected to each other by a bridge (Fig 6) and carrying electrodes to make the arms vibrate (Paragraph 15). Luff discloses that the main part of the case further includes at least one stud (items 172 and 174) secured to the base onto which the tuning fork is fixed, and said electrodes are electrically connected through the main part of the case to external connection terminals (items 175, 177 and column 4, lines 33-39).

9. With respect to claim 19, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Luff discloses an oscillator circuit electrically connected to the resonator element (items 180-184 and Abstract).

Art Unit: 2837

10. With respect to claim 21, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses a getter type material (item 1) is arranged in the first housing of the resonator element to act as a vacuum pump when activated (Paragraph 23).

11. With respect to claim 22, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 21. Shimizu et al. discloses that the getter type material is a layer of evaporated titanium or chromium in the first housing of the resonator element (Paragraph 15), and wherein this layer of titanium or chromium is disposed to be activated by means of a laser beam through the transparent portion of the glass cover so as to act as a vacuum pump and lower the oscillation frequency of the resonator element (Paragraphs 23 and 29).

12. With respect to claim 23, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 22. Shimizu et al. discloses that the getter type material is disposed on a part of the inner face of the cover (Fig 2).

13. With respect to claim 25, Shimizu et al. discloses an electronic component (Figs 1-6) comprising at least one resonator element (item 2) arranged in a first housing of a case (Figs 1-5), the case comprising: (a) a main part provided with a base (item 4); and (b) a glass cover (item 3) fixed onto the main part to hermetically seal the first housing of the case (Paragraph 15), wherein at least one portion of the glass cover is transparent to a determined wavelength of a light beam to allow the resonator element to be optically adjusted (Paragraph 23), wherein the glass cover is friable or breakable

Art Unit: 2837

(Paragraph 21, glass is inherently a breakable material), wherein the main part is made of a hard material (Paragraph 26).

Shimizu et al. does not disclose expressly at least one lateral wall of annular shape; that the cover is fixed onto an annular rim of the lateral wall of the main part; or that one part of the rim entirely surrounds at least certain portions of lateral surfaces of the cover to ensure protections of the cover of the electronic component against shocks, wherein a height of the one part of the rim surrounding all the lateral surfaces of the glass cover is larger than or equal to a thickness of the glass cover fixed onto the rim, and wherein the one part of the rim entirely surrounds the lateral surfaces of the glass cover.

Luff teaches an electronic component that includes a resonator element including at least one lateral wall of annular shape (Figs 1 and 3, item 135), wherein the cover (item 160) is fixed onto an annular rim of the lateral wall of the main part (Fig 3), and that one part of the rim entirely surrounds at least certain portions of lateral surfaces of the cover to ensure protection of the cover of the electronic component against shocks (Figs 1-3), wherein a height of the one part of the rim surrounding all the lateral surfaces of the glass cover is larger than or equal to a thickness of the glass cover fixed onto the rim (Fig 3), and wherein the one part of the rim entirely surrounds the lateral surfaces of the glass cover (Fig 1).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the lateral wall of Luff with the resonator element of Shimizu et al.

Art Unit: 2837

for the benefit of reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff).

14. With respect to claim 27, the combination of Shimizu et al. and Luff discloses the electronic component according to claim 25. Luff discloses a space provided between the lateral surfaces of the cover and the one part of the rim surrounding the cover (Fig 3).

Neither Shimizu et al. nor Luff discloses that the space is substantially of smaller dimensions than the thickness of the cover in order to facilitate mounting of the glass cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim.

Uchida et al. teaches a piezoelectric resonator in which the space between the lateral surface of the cover (item 5) and the one part of the rim (item 1a) is substantially smaller than the thickness of the cover (Fig 1b).

The language “in order to facilitate mounting of the glass cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim” does not positively recite any structural elements. As the combination of Shimizu et al., Luff, and Uchida et al. discloses each of the claimed structural features, the structure resulting from this combination would facilitate mounting of the glass cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to form the electronic component of Shimizu et al. as modified by Luff et al. such that the space between the lateral surface of the cover and the one part of the rim is reduced in size, such as in Uchida et al., for the benefit of further reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff – further reduction in the size of the space would allow for further reduction in the size of the package).

15. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff, Uchida et al., and Kizaki et al. (US 5841217).

16. With respect to claim 16, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12.

None of Shimizu et al., Luff, or Uchida et al. discloses expressly that the rim of the main part of the case receiving the cover includes a first annular layer of gold plating, wherein a periphery of an inner face of the cover includes a second annular layer of gold plating, and wherein the cover is welded onto the rim using a metal alloy preform arranged between the first annular layer of gold plating and the second annular layer of gold plating, wherein the metal alloy is formed of tin and gold.

Kizaki et al. teaches an electronic component including a resonator element and in which the rim of the main part of the case receiving the cover includes a first annular layer of gold plating (item 18, column 7, lines 47-51), wherein a periphery of an inner face of the cover includes a second annular layer of gold plating (column 6, lines 13-20), and wherein the cover is welded onto the rim using a metal alloy preform arranged

Art Unit: 2837

between the first annular layer of gold plating and the second annular layer of gold plating, wherein the metal alloy is formed of tin and gold (column 4, lines 46-54).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the base-cover attachment materials of Kizaki et al. with the resonator element of Shimizu et al. as modified by Luff and Uchida et al. for the benefit of increasing the strength of the airtight bond (column 6, lines 21-24 of Kizaki et al.).

17. Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff, Uchida et al., and Kondo et al. (US 5949294).

18. With respect to claim 20, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 19.

None of Shimizu et al., Luff, or Uchida et al. discloses expressly that the oscillator circuit is arranged in a second housing of the main part, wherein the second housing is delimited by the lateral wall and the base, and the second housing is arranged on an opposite face of the base to the first housing of the resonator element, wherein said oscillator circuit is encapsulated in the second housing by a resin and is electrically connected to external connection terminals of the electronic component, and wherein the base of the main part of the case includes electrical connection paths for electrically connecting the oscillator circuit and the resonator element.

Kondo et al. teaches an electronic component including a resonator element (Fig 18) in which the oscillator circuit (item 2) is arranged in a second housing of the main part (item 1), wherein the second housing is delimited by the lateral wall and the base (Fig 18), and the second housing is arranged on an opposite face of the base to the first

Art Unit: 2837

housing of the resonator element (Fig 18), wherein said oscillator circuit is encapsulated in the second housing by a resin (item 23) and is electrically connected to external connection terminals (items 11 and 14) of the electronic component, and wherein the base of the main part of the case includes electrical connection paths (items 11-14) for electrically connecting the oscillator circuit and the resonator element.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the second housing and resin of Kondo et al. with the resonator element of Shimizu et al. as modified by Luff and Uchida et al. for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

19. With respect to claim 28, the combination of Shimizu et al., Luff, and Uchida et al. discloses the electronic component according to claim 12. Shimizu et al. discloses that the at least one resonator element is vacuum enclosed in the first housing (Paragraph 2).

None of Shimizu et al., Luff, or Uchida et al. disclose expressly an integrated circuit arranged in a second housing of the case, wherein the second housing is delimited by the lateral wall and the base of the main part, and the second housing is filled with resin encapsulating the integrated circuit.

Kondo et al. teaches an electronic component that includes an integrated circuit (item 2) arranged in a second housing of the case (item 1), wherein the second housing is delimited by the lateral wall and the base of the main part (Fig 18), and the second housing is filled with resin (item 23) encapsulating the integrated circuit (Fig 18).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the second housing and resin of Kondo et al. with the resonator element of Shimizu et al. as modified by Luff and Uchida et al. for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

20. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. in view of Luff and Kondo et al. (US 5949294).

21. With respect to claim 29, the combination of Shimizu et al. and Luff discloses the electronic component according to claim 25. Shimizu et al. discloses that the at least one resonator element is vacuum enclosed in the first housing (Paragraph 2).

Neither Shimizu et al. nor Luff disclose expressly an integrated circuit arranged in a second housing of the case, wherein the second housing is delimited by the lateral wall and the base of the main part, and the second housing is filled with resin encapsulating the integrated circuit.

Kondo et al. teaches an electronic component that includes an integrated circuit (item 2) arranged in a second housing of the case (item 1), wherein the second housing is delimited by the lateral wall and the base of the main part (Fig 18), and the second housing is filled with resin (item 23) encapsulating the integrated circuit (Fig 18).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the second housing and resin of Kondo et al. with the resonator element of Shimizu et al. as modified by Luff for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

Allowable Subject Matter

22. Claims 30 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose or suggest "wherein the lateral surfaces of the glass cover comprises edges and corners, and the space provided between all the lateral surfaces of the glass cover and the one part of the rim surrounding the glass cover narrows at the corners of the glass cover" In combination with the remaining claims elements of claim 30 or claim 31.

Response to Arguments

24. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

25. Applicant's arguments filed 18 March 2010 have been fully considered but they are not persuasive.

26. Applicant argues that the cover of Luff is not a glass cover and is therefore not friable or breakable. However, Luff is not relied upon for its teaching of a glass cover. It is Shimizu that is relied upon to show this feature.

Art Unit: 2837

27. Applicant argues that the rim of Luff is not provided so as to protect the cover, but that it is only provided to allow making of external terminals. However, while not explicitly describes as protecting the cover, the rim portion would inherently serve this purpose.

28. Applicant argues that Uchida does not disclose a piezoelectric resonator in which a space is provided between all the lateral surfaces of the glass cover and the one part of the rim, wherein the space is of substantially smaller dimension than the thickness of the cover. Applicant argues that the space is only small on one side of the cover, and that Uchida does not meet this language for all of the lateral surfaces of the cover. However, in combination with Shimizu and Luff, in which the space around the cover is of uniform dimension, the smaller space taught by Ichida would be provided on all lateral surfaces of the cover.

29. Applicant argues that the applied references do not disclose "the glass cover is fixed onto an annular rim of the lateral wall of the main part, wherein the main part is made of a hard material so that one part of the rim entirely surrounds lateral surfaces of the glass cover and ensures protection of the glass cover of the electronic component against lateral shocks". However, with the exception of the material of the cover being glass, Luff teaches each of these elements, and Shimizu teaches glass as the material of the cover.

30. Applicant argues that the applied references do not disclose "a space is provided between all the lateral surfaces of the glass cover and the one part of the rim surrounding the glass cover, wherein the space is of smaller dimension than the

Art Unit: 2837

thickness of the glass cover in order to facilitate mounting of the glass cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the glass cover of lateral shock against the rim". However, Luff discloses that a space is provided between all the lateral surfaces of the cover and the one part of the rim surrounding the cover. In order to facilitate mounting of the cover on the rim of the lateral wall of the main part, and wherein the space is disposed to avoid propagation on the cover of lateral shock against the rim. Shimizu teaches that the cover is made of glass. Uchida teaches that the dimension of the space is smaller than the thickness of the cover.

31. Applicant argues that the applied references do not disclose "the glass cover is fixed onto a rim of the lateral wall of the main part wherein the main part is made of a hard material so that one part of the rim surrounds at least certain portions of the lateral surfaces of the glass cover and ensures protection of the glass cover of the electronic component against lateral shocks". However, with the exception of the material of the cover being glass, Luff teaches each of these elements, and Shimizu teaches glass as the material of the cover.

32. Applicant argues that there is no legitimate reason to combine the applied references. However, it would be obvious to combine the teachings of Shimizu, Luff, and Uchida in the manner suggested by the office action for the benefit of reducing the size of the finished package (column 1, lines 14-48 and column 3, lines 8-10 of Luff). It would also be obvious to combine the teachings of Kizaki for the benefit of increasing the strength of the airtight bond (column 6, lines 21-24 of Kizaki et al.). It would also be

Art Unit: 2837

obvious to combine the teachings of Kondo for the benefit of providing electromagnetic shielding between the components of the device (column 6, lines 7-13 of Kondo et al.).

33. Applicant argues that there would be no expectation of success that the proposed combination of references would provide a space that is disposed to avoid propagation on the glass cover of lateral shock against the rim. However, any space between the cover and the rim of the main part would be sufficient to avoid propagation on the glass cover of lateral shock against the cover, at least for some degree of lateral shock.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek J. Rosenau whose telephone number is (571)272-8932. The examiner can normally be reached on Monday thru Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on (571) 272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2837

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Derek J Rosenau/
Examiner, Art Unit 2837

/Walter Benson/
Supervisory Patent Examiner, Art Unit 2837